

## What is claimed is:

**[Claim 1]** A method for preparing a transmission electron microscopy (TEM) sample for electron holography, the method comprising:

forming a sacrificial material over an area of interest on the sample;  
polishing the sample to a desired thickness, wherein said area of interest is protected from rounding during said polishing; and  
removing said sacrificial material from the sample following said polishing.

**[Claim 2]** The method of claim 1, wherein said sacrificial material comprises an adhesive material.

**[Claim 3]** The method of claim 2, wherein said adhesive material comprises an organic, epoxy-phenolic resin.

**[Claim 4]** The method of claim 3, further comprising oven curing said adhesive material following the formation thereof on the sample.

**[Claim 5]** The method of claim 4, wherein said adhesive material is cured for about for about two hours at a temperature of about 70°C.

**[Claim 6]** The method of claim 2, wherein said adhesive material is removed by an ammonium hydroxide (NH<sub>4</sub>OH) solution so as to leave said area of interest substantially intact.

**[Claim 7]** The method of claim 1, further comprising de-layering the sample down to the area of interest prior to said forming said sacrificial material.

**[Claim 8]** The method of claim 7, further comprising ultrasonically cleaning the sample prior to said forming said sacrificial material.

**[Claim 9]** The method of claim 8, further comprising applying an acetone solution to said sample following said polishing.

**[Claim 10]** The method of claim 6, further comprising optically inspecting the sample following the removal of said adhesive material.

**[Claim 11]** A method for preparing a transmission electron microscopy (TEM) sample for electron holography, the method comprising:

forming a sacrificial material over an area of interest on the sample;  
forming a protective layer over said sacrificial material;  
polishing the sample to a desired thickness, wherein said area of interest is protected from rounding during said polishing; and  
removing said sacrificial material and said protective layer from the sample following said polishing.

**[Claim 12]** The method of claim 11, wherein said sacrificial material comprises at least one of a chromium (Cr) and a tungsten (W) layer.

**[Claim 13]** The method of claim 12, wherein said protective layer comprises a tetraethyl orthosilicate (TEOS) layer.

**[Claim 14]** The method of claim 12, wherein said sacrificial material is removed by soaking the sample in a removal solution so as to leave said area of interest substantially intact.

**[Claim 15]** The method of claim 11, further comprising de-layering the sample down to the area of interest prior to said forming said sacrificial material.

**[Claim 16]** The method of claim 15, further comprising ultrasonically cleaning the sample prior to said forming said sacrificial material.

**[Claim 17]** The method of claim 14, further comprising optically inspecting the sample following the removal of said adhesive material.